REILLY TAR & CHEMICAL CORPORATION

TO: See Below

OFFICE: Granite City, Ill.

FROM: K. J. Morrison

DATE: September 6, 1960 (Dict. Sept. 2)

SUBJECT: PLANT MANAGERS' MEETING - PITCH HANDLING

To: Mr. W. W. Roberts, Renton
Mr. R. K. Nelson, Provo
Mr. H. L. Finch, St. Louis Park
Mr. W. T. Varneil, Chattanooga
Mr. G. Jackson, Lone Star
Mr. P. A. Neri, Fairmont
Mr. C. A. Fisher, Maywood
Mr. J. C. Lenox, Cleveland Plant
Mr. C. F. Lecher, Indianapolis
Mr. T. E. Reilly, Indianapolis
Mr. M. Mitchell, Reilly Lab.
Mr. H. R. Horner, Reilly Lab.
Dr. F. J. Mootz, Indianapolis

In response to Dr. Mootz's letter of August 24, outlined below is the Granite City method of handling pitch:

I. Manufacture of Pitch:

(a) Method of Production:

1. All of the pitch manufactured at Granite City is made through a straight-run production. Due to the various types of tar available for charging, we sometimes preblend tars from Granite City Steel; U. S. Steel, Clairton; and Youngstown Sheet & Tube in a tank prior to charging to the stills, and in some instances we blend Great Lakes Carbon tar with Granite City Steel tar in the still itself; however, all of these tars are made on the straight-run basis to the desired melting point.

2. We do not make any continuous distillations of tar products.

3. The only time any blending is accomplished in the stills is when a product has been overshot and it is necessary to cut back with oils to bring it to the desired softening point, mainly in the manufacture of Roofing Pitch.

4. In the manufacture of Anode Pitch for Harvey, we run our stills to 110°C. softening point and blow to a pitch cooler. Gas oil is added to the cooler to reduce the softening point to approximately 99°C., where it is agitated, cooled and pumped to a pitch bay. This is the only type of pitch which is blended after it leaves the stills.

(b) Still Cycles:

1. When firing for Anode and Soderberg Pitch, we normally initiate firing at 3:00 a.m. This is to facilitate proper timing for the still sample to be run by our laboratory, which usually [illegible] 5:30 a.m. to 5:00 p.m. All other types of pitch [illegible] Coke and Roofer are fired as soon as [illegible] are discharged.

2. Firing time for Roofing Pitch and Anode Pitch averages nine hours. Target and Electrode Pitch runs 11 hours, and Soderberg Pitch runs 12 to 14 hours because of the necessary laboratory time to make a finished product within the still.

3. Testing:

   (a) Anode Pitch - Softening point is run on the residue within the still; softening point is run on the pitch in the cooler; after cut back, we run the softening point, quinoline insoluble, ash and benzol insoluble; weekly, we run the softening point, quinoline insoluble, ash and benzol insoluble on the previous week's accumulation in the bay.

   (b) Soderberg Pitch - Softening point is run on the pitch within the still. When the pitch is in a tank car, we run the softening point, quinoline insoluble, coke value and toluene insoluble.

   (c) Roofing Pitch - Softening point is run on the pitch in the still and when the pitch is put into drums, we run a softening point and foaming test.

   (d) Core Pitch - Distillation end point is determined by specific gravity of distillate, a softening point is run on the pitch in the cooler and a representative sample is taken of the static bay, on which a softening point is run.

   (e) Target Pitch - Softening point is run on the pitch in the still. Another softening point is run on the pitch in the cooler, and a representative sample of the static bay is taken, on which a softening point is determined.

4. All of the pitch is blown from our stills by steam pressure.

II. Handling Bulk Pitch:

1. We have been informed by the Engineering Department that we may normally put two inches into our pitch bays and retain a cooling effect of the pitch in the bay, but we suspect this varies depending on atmospheric temperature and conditions for deflecting sunlight. It has been necessary in the past week to install water sprayheads over our pitch bays to assist in cooling the pitch within the bay. We must await future developments to determine if this will be a satisfactory solution to overcome the direct rays of the sunlight during the summer weather.

2. For the purpose of digging Core and Target Pitch, we have found it quite satisfactory, using a Cardox wagon drill, to drill a hole in the pitch to approximately six inches above the concrete floor and to place one third [illegible] in dynamite with an electric blasting cap attached to shatter the pitch. The fractured

pitch is then picked up by a Hough payloader and placed on a conveyor for either storage within our loading bin or direct discharge into the shipping truck. In the case of Foundry Pitch, it is necessary for the payloader to pick up the shattered pitch and drop it into a hopper above a crusher, which requires an additional man to feed the pitch lumps through the crusher, from which it is conveyed into the storage bin. This pitch is then subjected to oil treatment prior to being conveyed into the shipping truck.

In the case of Anode Pitch, we have had severely adverse conditions, due to the pitch not being completely solidified prior to attempts to dig it. In these cases, we have attempted to break up the pitch through the use of air hammers, drilling and dynamiting, Hough payloader, Caterpillar tractor, highlift, and large, automotive, hydraulically-operated, concrete breaking equipment. None of these methods has been satisfactory and they were purely experimental. We believe that with a roof over our bays to deflect the rays of the sun and with the additional help of our water sprinklers, we will be capable of drilling, dynamiting and loading with our payloader this type of pitch from our bays.

3. We do not have any type of pan equipment for use in the pitch production operation.

III. Handling Liquid Pitch:

1. In the manufacture of Soderberg Pitch, the still is discharged by steam pressure to a cooler equipped with an air condenser and then pumped (as hot as possible) into a tank car for shipment.

Roofing Pitch is discharged from the stills by steam pressure to a storage tank (noninsulated) equipped with an air condenser and then pumped to an insulated 4,500-gallon tank for gravity loading into the customers' trucks.

IV. Drumming Pitch:

Pitch is drawn by gravity through a 2½" steam-traced line into drums. After cooling sufficiently to skim they can be moved. These drums are hauled by hand trucks for a distance of approximately 150 feet to the warehouse scales, where they are weighed and set up for shipment, where they will eventually be hand-trucked again for an additional 100 feet to either box cars or trucks. At the time of weighing, the date of filling and the weight are stencilled on the drum and Underwriters' labels are attached. Empty drums are received in box cars, unloaded to storage and subsequently carried to the filling station.

Yours very truly,

[signature]

H:VS